

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Adkins Energy, LLC  
Attn: Todd Block  
4350 West Galena Road  
P.O. Box 227  
Lena, Illinois 61048

Application No.: 03070046

I.D. No.: 177802AAA

Applicant's Designation: FLARE

Date Received: July 24, 2003

Subject: Ethanol Loadout Flare

Date Issued: February 2, 2004

Location: 4350 West Galena Road, Lena

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a permanent flare for ethanol loadout, as described in the above-referenced application. This Permit is subject to the standard conditions for construction permits and the standard conditions for operating permits attached hereto and the following special condition(s):

- 1a. This permit authorizes the construction of permanent air-assisted flare with enclosure to control VOM emissions from the existing ethanol loadout operation, as required by the Agreed Order for Interim Injunctive Relief, in the State of Illinois v. Adkins Energy, Fifteenth Judicial Circuit, Stephenson County, Illinois, No. 03 CH76. This flare will replace the portable flare currently being used by the source.
- b. This permit does not authorize any changes to the ethanol loadout operation or the plant that would increase its capacity.
- 2a. The Permittee shall route vapor displaced by ethanol loadout to the flare.
- b. The flare shall be designed and be operated to comply with applicable requirements of 40 CFR 60.18, including:
  - i. The flare shall be operated by the Permittee with no visible emissions as determined by the methods specified in 40 CFR 60.18(f)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
  - ii. The flare shall be operated by the Permittee with a flame present when vapors displaced by ethanol loadout are being vented to it, as determined by the methods specified in 40 CFR 60.18(f)(2).

- iii. The flare shall be used only with the net heating value of the gas being combusted being 300 Btu/scf or greater. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3). Note: Natural gas or other gaseous fuel may be added to the displaced vapors to comply with this requirement.
  - iv. The flare shall be operated by the Permittee with an exit velocity less than the maximum allowable velocity,  $V_{max}$ , as determined by the method specified in 40 CFR 60.18(f)(6).
  - v. The Permittee shall monitor the flare to ensure that it is operated and maintained in conformance with the manufacturer's design, as required by 40 CFR 60.18(d).
- c. The Permittee shall generally operate and maintain the ethanol loadout operation with the flare system in accordance with good air pollution control practice to minimize emissions of volatile organic material (VOM).
- 3a. This permit is issued based on the flare achieving a nominal VOM destruction efficiency of at least 98 percent.
- b. Emissions of Volatile Organic Material (VOM), nitrogen oxides ( $NO_x$ ) and carbon monoxide (CO) from the flare shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
VOM	0.20	2.13
$NO_x$	0.07	1.79
CO	0.16	0.72

These limits are based on the information in the application for the flare, including emission factors for  $NO_x$  and CO, respectively, of 0.034 and 0.084 pound per 1,000 gallons of ethanol loaded out and maximum ethanol throughput of 42,500,000 gallons per year.

- c. This permit is issued based on minimal emissions of particulate matter and sulfur dioxide from the flare. For this purpose, emissions shall not exceed a nominal emission rate of 0.2 pound/hour and 1.0 tons/year.
4. For the purpose of maintaining control during the scheduled or unplanned outages of the permanent flare, the Permittee is allowed to install and operate a portable flare on a temporary basis subject to the following provisions:
- a. The temporary flare may be operated during periods when the permanent flare is out of service and as reasonably needed for transition between the permanent and a portable flare.

- b. The Permittee shall notify the Illinois EPA prior to proposed installation of temporary flare. With this notification, the Permittee shall provide information on the type of the flare, capacity of the flare, and duration of time for which the flare will be operated.
  - c. The requirements of this permit shall apply to the portable flare or as appropriate, to the combination of the permanent and temporary flare (Condition 3(b) and (c)).
  - d. If the portable flare is used for a period of 10 days or more, the Permittee shall comply with requirements of Condition 6.
  - e. The Permittee shall notify the Illinois EPA when the permanent flare is returned to service and the portable flare is removed from the site.
5. This permit is issued based on the ethanol loadout operation not being subject to state or federal rules for handling of gasoline because the fuel ethanol handled in the operation has a Reid vapor pressure that is less than 27.6 kilopascals (4.0 psia).
6. Within 20 days of initial use of the permanent flare to control ethanol loadout, the Permittee shall submit a report to the Illinois EPA that confirms compliance with Conditions 2(a) and (b). For this purpose, the heat content of the vented gases shall be determined by either direct laboratory measurement or by engineering calculations if the composition of the gas has been analyzed and if there is a significant change in the composition of the vented gases which could result in lower heat content.
- 7a. The Permittee shall operate the ethanol loadout operation and flare in accordance with written procedures. These procedures may be the procedures provided by the supplier of equipment or procedures developed and maintained by the Permittee.
- b. The Permittee shall keep a copy of the operating and maintenance procedures for the flare system provided by the supplier at a location at the plant where they are readily accessible to the individuals who are responsible for operation and maintenance of the flare.
- c. The Permittee shall keep an inspection, maintenance and repair log for the flare system, which lists activities that are performed, with date and responsible individual(s).
- 8a. The Permittee shall keep the following operating records for each day on which ethanol loadout is conducted:
- i. Date and amount of ethanol loaded.
  - ii. Confirmation that established operating procedures were followed.

- iii. Confirmation that the flare functioned properly, i.e., a flame was present and no visible emissions were observed except as allowed by 40 CFR 60.18(f)(1).
- b. The Permittee shall keep the following records for each event when ethanol loadout continues when the flare is not operating properly to control VOM emissions:
  - i. Date, time, and duration of event.
  - ii. Description of event.
  - iii. Estimated amount of ethanol loaded until the situation was corrected or loadout ceased.
  - iv. Reason why loadout could not be immediately ceased.
  - v. Corrective actions taken.
  - vi. Actions taken to prevent or reduce the likelihood of future occurrences.
- c. The Permittee shall keep records of the emissions of VOM, CO and NO<sub>x</sub> from the ethanol loadout operation, with supporting calculations. For this purpose, standard emission factors shall be used for periods when the flare operates properly, e.g., 98 percent destruction of VOM. For periods when the flare does not operate properly, specific estimates of emissions shall be made, accompanied by written justification or explanation.
- 9. All records and logs, or written procedures required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
- 10a. The Permittee shall notify the Illinois EPA within 5 days of the initial operation of the permanent flare to control the ethanol loadout operation.
  - b. The Permittee shall notify the Illinois EPA within 5 days of removing the existing flare from the site.
  - c. The Permittee shall promptly notify the Illinois EPA if gaseous fuel will be used to supplement the heat content of vented gas.
- 11. The Permittee shall promptly report exceedances of applicable requirements for the ethanol loadout operation or associated flare to the Illinois EPA, as follows. These reports shall include a description of the exceedances, including a copy of any relevant records; a description of the corrective action taken; an estimate of the amount of excess emissions, if any; and a description of actions taken to prevent or reduce the likelihood of similar events in the future.

- a. Any exceedance of Condition 2(a) or (b) that lasts for one hour or more shall be reported within 30 days of the event. For this purpose, an exceedance shall be considered to continue even if operation of the ethanol loadout operation is interrupted if the exceedance condition is still present when operation is resumed.
  - b. Other exceedances shall be reported in a quarterly compliance report that shall be submitted no later than January 30, April 30, July 30, or October 30 for the preceding calendar quarter. This report shall also provide a listing of all exceedances for which 30-day reporting was required, as addressed above, but need not include copies of the previously submitted exceedance reports. If there have been no exceedances during a quarter, a quarterly report shall still be submitted stating that there were no exceedances.
12. Reports and notifications required by this permit shall be sent to the Illinois EPA at the following address unless otherwise indicated:  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276  
Telephone: 217/782-5811      Fax: 217/524-4710  
  
A copy of required reports and notifications shall also be sent to the Illinois EPA at the following address:  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
5415 North University  
Peoria, Illinois 61614  
Telephone: 309/693-5463      Fax: 309/693-5467
13. This permit does not relieve the Permittee of the responsibility to comply with all local, state and federal regulations that are part of the applicable Illinois State implementation plan, as well as all other applicable federal, state and local requirements.

If you have any questions on this, please call Minesh Patel at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:MVP:psj

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